Sieve jigger

CLAIMS

1. Sieve jigger for sorting solid material mixtures, such as raw coal or other minerals, in a separating liquid, such as water, according to density, in particular for the pre-separation of tailings, comprising a rocker (12) that can pivot in the water bath and carries the sieved-product carrier and the sieved-product, which rocker (12) executes an u ward stroke by way of a pivotedly connected hydraulic cylinder (18) and a downward stroke by letting it fall under the force of gravity,

characterised by the following features:

a) the hydraulic cylinder is designed as a lifting and braking cylinder (16) with integrated displacement measuring device (23) of the cylinder piston,

b) connected to the working chamber of the cylinder (16) is a hydraulic oil supply and evacuation conduit (28) containing an integrated proportional control valve (29),

c) the displacement sensor (25) of the lifting and braking cylinder (16) is operatively connected via a governor (27) to the proportional control valve (29) in order to control the upward movement and the downward movement and accordingly the lifting

displacement (17) and/or the lifting frequency of the rocker (12).

2. Sieve jigger according to claim 1,

characterised in that the control intervention on the proportional control valve (29) takes place in such a way that in order to lift the rocker (12) hydraulic oil is fed through the hydraulic oil supply and evacuation conduit (28) into the working chamber of the lifting and braking cylinder (16) until before the upper dead point (OT) is reached, and in order to lower the rocker (12) it first falls in free-fall during which hydraulic oil is displaced from the working chamber of the cylinder and hydraulic oil is discharged through the same conduit (28) followed by the hydraulic braking of the cylinder piston (24) before the lower dead point (UT) is reached.

3. Sieve jigger according to claim 2,

characterised in that the working cycle of the lifting and braking cylinder (16) consists of the lifting phase of the rocker (12), the free-fall phase of the rocker and the braking phase of the rocket, wherein all three phases can be controlled independently.

4. Sieve jigger according to claim 2,

characterised in that the difference between the upper and lower piston position of the lifting and braking cylinder

(16) corresponds to the lifting displacement (17) of the rocker (12), wherein the lifting displacement range lies between the limits of the upper dead point (OT) and the lower dead point (UT) of the cylinder piston (24).

5. Sieve jigger according to claim 1,

characterised in that the governor (27) connected via a signal line to the displacement measuring device (25) of the lifting and braking cylinder (16) is connected via a further signal line (30) to the proportional control valve (29), which is arranged in the hydraulic oil circuit between the hydraulic oil pump (31) and the working chamber of the lifting and braking cylinder (16).

6. Sieve jigger according to claim 1,

characterised in that the proportional control valve (29) includes a controllable electronic timing generator system (32).